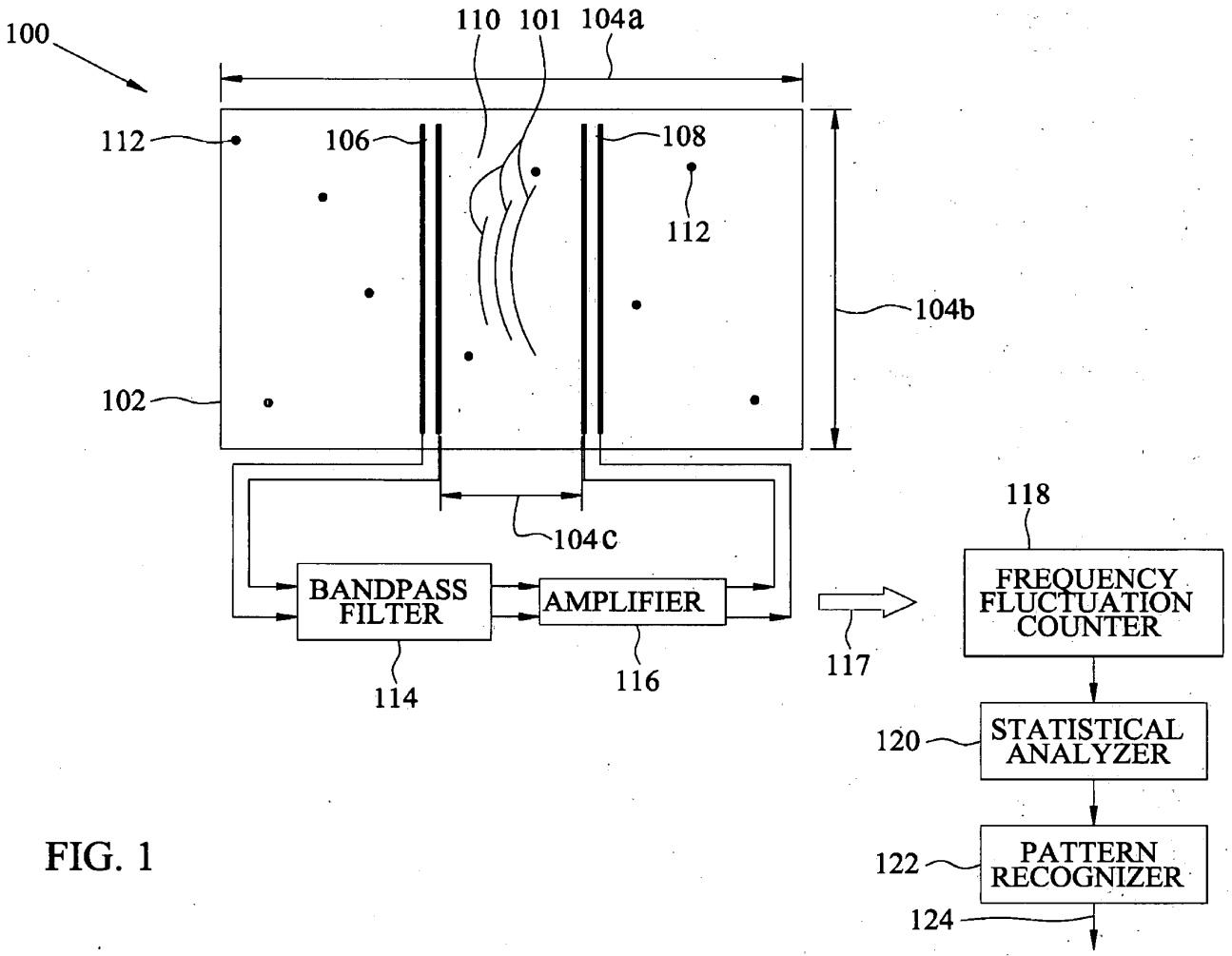

100
110
101
104a
112
106
108
112
104b
102
104c
BANDPASS FILTER
AMPLIFIER
114
116
117
118
FREQUENCY FLUCTUATION COUNTER
120
STATISTICAL ANALYZER
122
PATTERN RECOGNIZER
124

FIG. 1

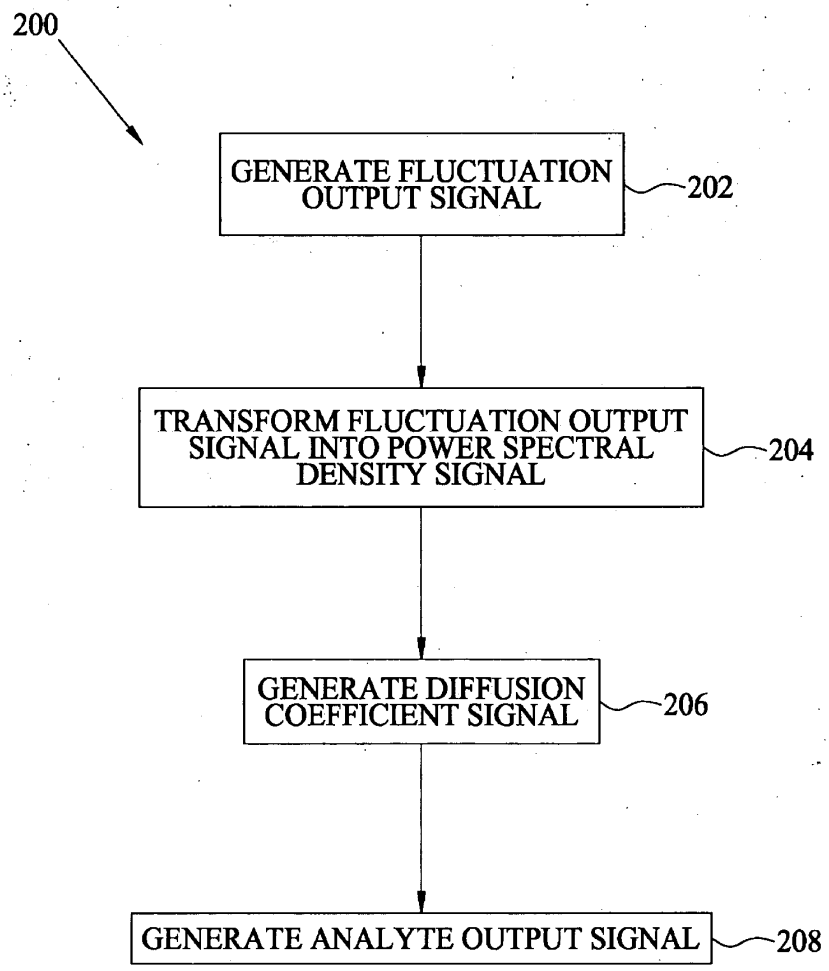

200
GENERATE FLUCTUATION OUTPUT SIGNAL
202
TRANSFORM FLUCTUATION OUTPUT SIGNAL INTO POWER SPECTRAL DENSITY SIGNAL
204
GENERATE DIFFUSION COEFFICIENT SIGNAL
206
GENERATE ANALYTE OUTPUT SIGNAL
208

FIG. 2

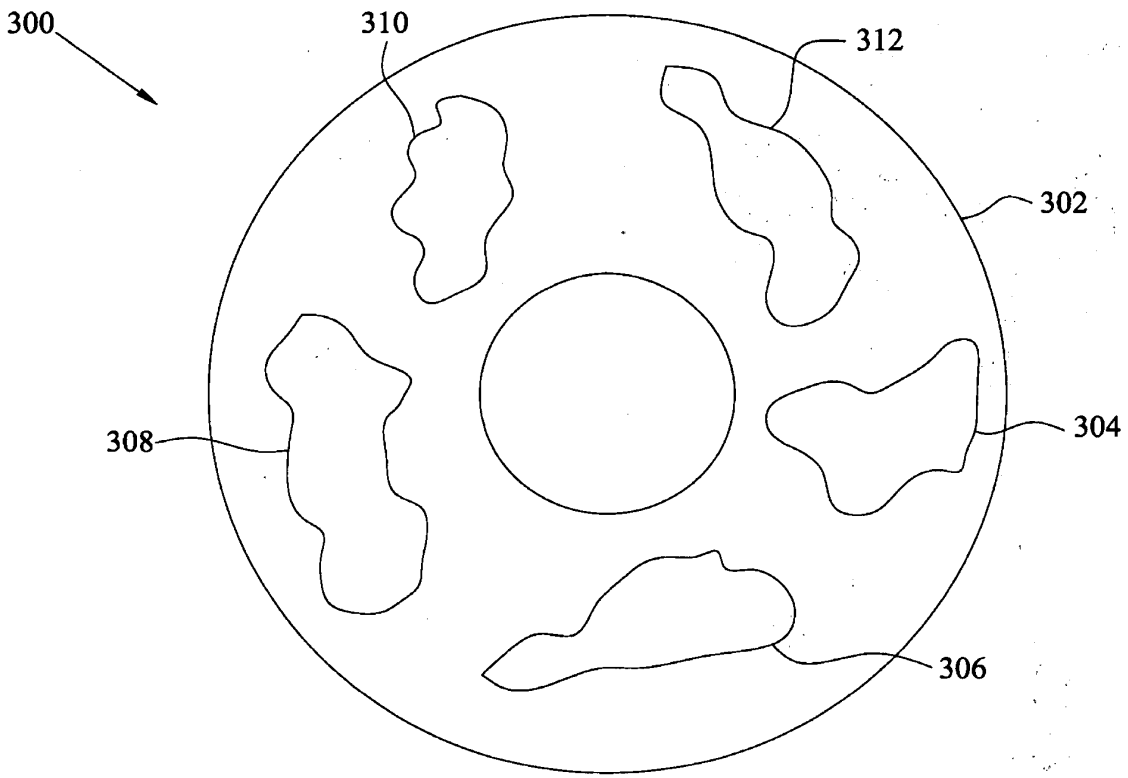


FIG. 3

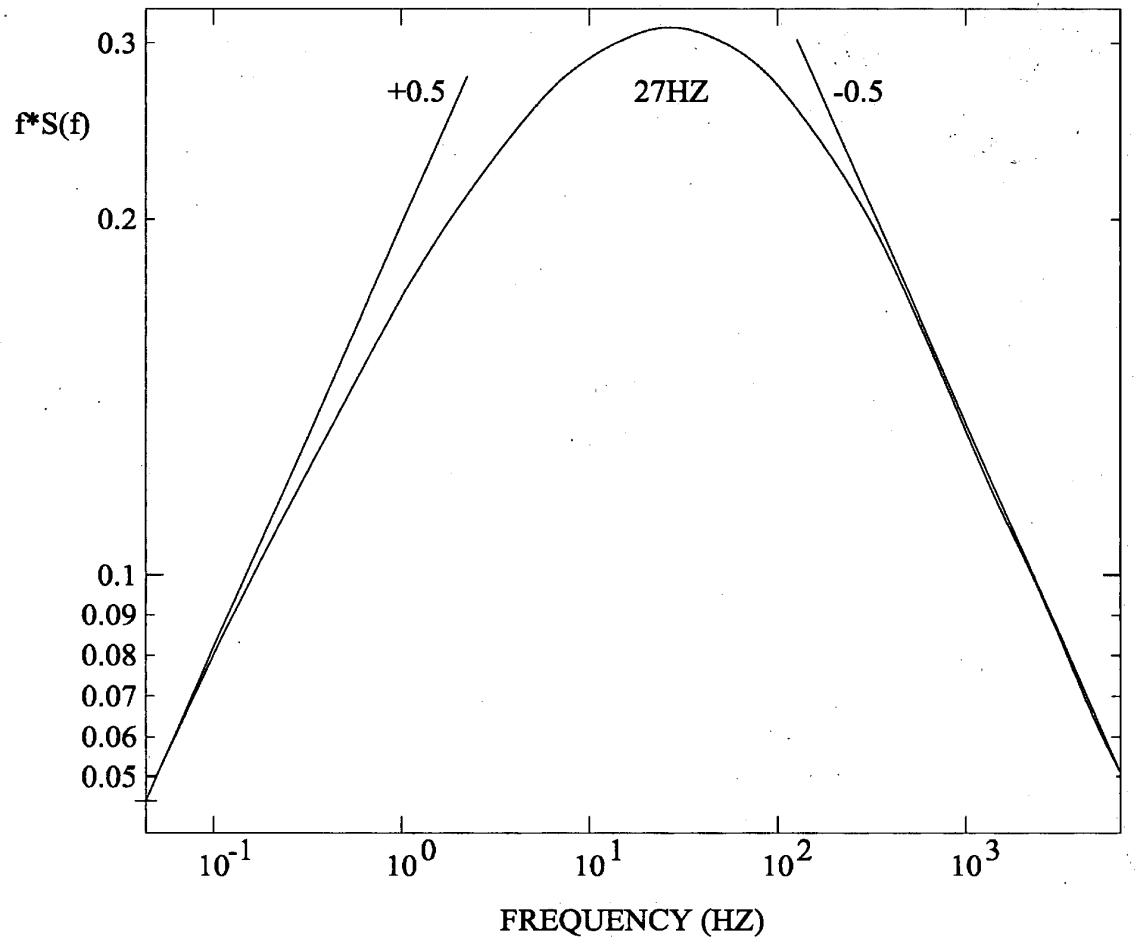
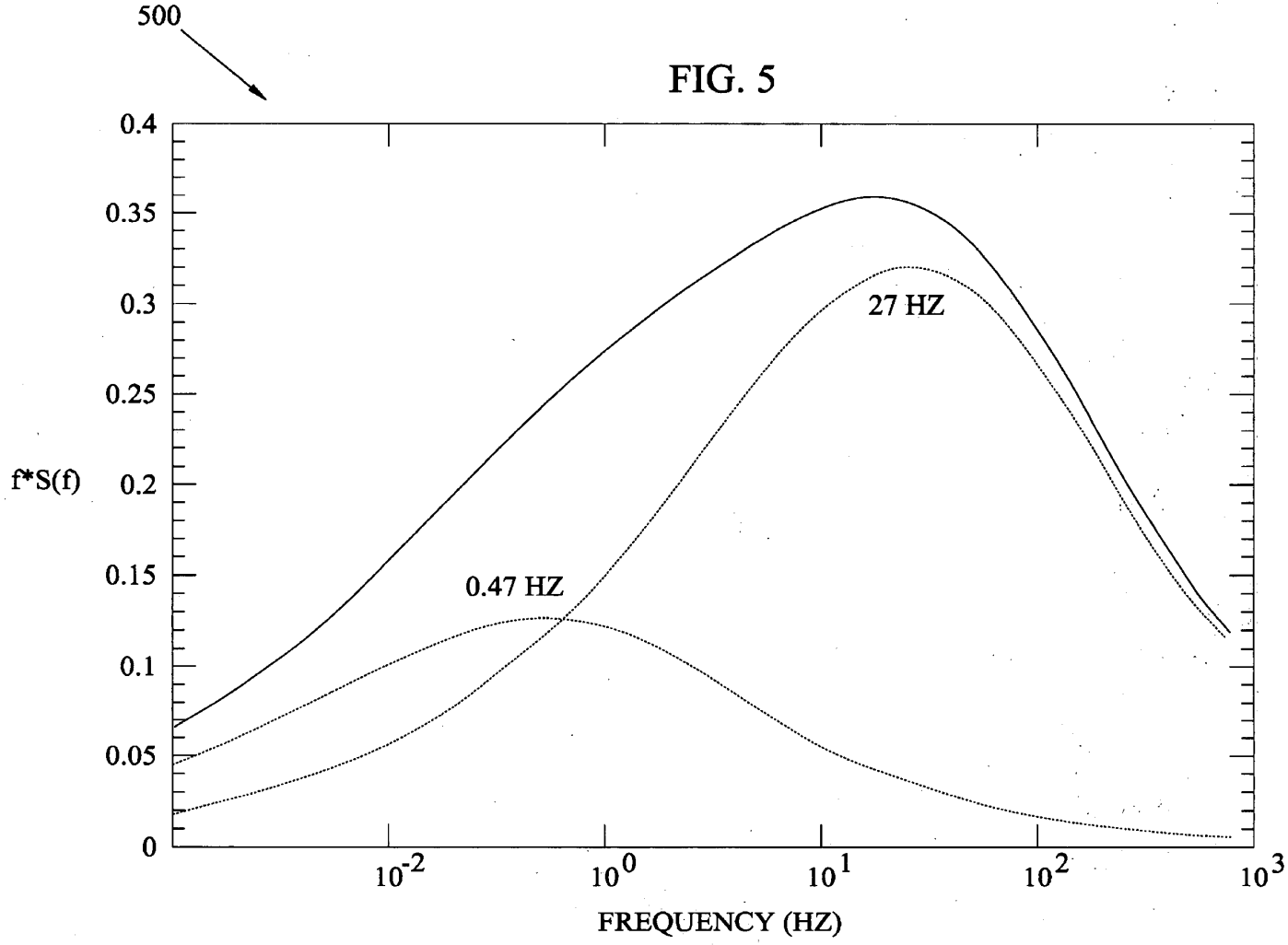

400
f*S(f)
0.3
0.2
0.1
0.09
0.08
0.07
0.06
0.05
+0.5
27HZ
-0.5
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
FREQUENCY (HZ)

FIG. 4

FIG. 5


500
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
f*S(f)
27 HZ
0.47 HZ
10^{-2}
10^{0}
10^{1}
10^{2}
10^{3}
FREQUENCY (HZ)